Maryland Energy
ADMINISTRATION
Powering Maryland's Future

Using the
Strategic Energy Investment Fund
Maryland's Energy Future
Keeping bills down, lights on & climate healthy

MARYLAND

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STRATEGIC ENERGY INVESTENT FUND:
Helping Marylanders Save Energy - and Money
by Offering New Incentives & Resources

Over the last year, Maryland experienced dramatic hikes in electricity bills, warnings of possible summertime blackouts as early as 2011 and growing concern over our vulnerability to climate change. To address these concerns, the General Assembly established the Maryland's Strategic Energy Investment Fund (SEIF or Fund) to help take control of our energy future.

The Maryland Energy Administration (MEA) proposes to use the Fund to offer a range of incentives and resources directly to Maryland consumers, businesses and communities to help decrease energy bills and increase the supply of clean, renewable energy. The investments will not only help reduce the state's carbon footprint, they will also expand Maryland's economy by creating new, green collar jobs.

As directed by the General Assembly, SEIF provides for significant investments in energy efficiency and renewable energy technologies to reduce the state's emissions of greenhouse gases. It also provides short-term residential rate relief as well as a long-term strategy to control electricity bills by increasing overall supply and decreasing demand. The Fund will also help Maryland's most vulnerable families by providing additional energy assistance funds to keep the heat on during upcoming winter and targeted programs to help reduce their monthly electric bills.

Specifically, MEA proposes to invest the Fund to assist:

- **Households** - Through direct consumer rebates, incentives (rebates) for home efficiency improvements and residential solar, geothermal and wind energy grants.
- **Low-to-Moderate Income Families** - Through bill payment assistance, additional incentives for home energy efficiency improvements, community grants for low-to-moderate income energy efficiency investments, and additional funding for the Jane Lawton Conservation Loan Program.
- **Businesses, Farmers and Workers** – Through specialized industrial and commercial energy assessments, clean energy workforce training, farm energy audits and incentives, and small business renewable energy grants.
- **Communities** – Through community grants for energy efficiency, renewable energy, and alternative transportation fuels, and the Jane Lawton Conservation Loan Program.
- **State Government** – To lead by example through the State Agency Loan Program, state agency energy efficiency infrastructure investments, strategic energy planning, and Maryland Department of the Environment's climate program.
- **Energy Awareness** – Through a media campaign to provide energy savings tips and information, and school-based educational initiatives.

In short, MEA proposes to use the Strategic Energy Investment Fund to provide a variety of incentives directly to Marylanders. These investments will help decrease energy bills and increase the supply of clean, renewable energy. This fund, along with EmPOWER Maryland Act, will help us keep the lights on, the bills down and our environment clean.

FUNDING THE SEIF

The SEIF is a special, non-lapsing fund that is made up of the proceeds from the auction of carbon allowances to electric power plants under the Regional Greenhouse Gas Initiative (RGGI). Maryland joined RGGI in 2006 as part of the Healthy Air Act. The SEIF does not receive any general funds nor does it include any ratepayer surcharges.

Auctions are quarterly. The first was held on September 25, 2008 and generated $16.3 million for Maryland.

The Strategic Energy Investment Act of 2008 requires that the Fund be allocated annually as follows:

- 23% - Residential Rate Relief
- 17% - Low Income Energy Assistance
- 46% - Energy Efficiency, Conservation & Demand Response Programs (of which half must be used on low and moderate income families)
- 10.5% - Clean Energy & Climate Change Programs, Outreach & Education
- 3.5% - Administration of Fund

For more information, please go to www.energy.state.md.us or contact Brandon Farris, Maryland Energy Administration, at 410-260-7655 or bfarris@energy.state.md.us.

1 EmPOWERing Households

A. Direct Rate Relief to all Marylanders

The Strategic Energy Investment Act of 2008 provides for direct consumer rate relief to all Maryland residents. The statute requires that 23 percent of the funds each year be allocated to "provide rate relief by offsetting electricity rates of residential customers…"

Beneficiaries

All residential electricity customers in Maryland.

The Way It Works

All rate relief will be issued in the current fiscal year. The Public Service Commission (PSC), in coordination with the Maryland Energy Administration (MEA) and the electric utilities, will administer the relief.

The funds will be allocated to every household in Maryland. The PSC has initiated a proceeding, on how best to disperse the funds. A hearing, open to the public, is scheduled for January 2009. This will determine if the rate relief should be provided as an annual credit, a quarterly credit to match the quarterly RGGI auctions, or some other mechanism.

Return On Investment

- All residential Marylander electricity customers will see a reduction in their bill without any need to sign up.
- Additional rate relief is expected in every subsequent year.

B. Home Energy Efficiency Retrofits

MEA plans to utilize the Home Performance with ENERGY STAR (HPwES) Program, offering home audits, individual incentives and events conducted to encourage people to make their homes more energy-efficient. It rewards consumers for both whole-house and individual measures to reduce energy consumption. In addition, the Program trains and certifies contractors including those who just do home energy audits and those that are involved in the home retrofits.

Beneficiaries

Residential customers considering energy upgrades and improvements to their home.

The Way It Works

The Home Performance with ENERGY STAR (HPwES) Program offers a whole house approach to energy efficiency to create a more comfortable and efficient home. MEA will implement its program so that participating homes are less leaky, better insulated, use more efficient lighting and appliances, are more durable, and perform better than before they had improvements installed. Eligible measures may range from installing CFL bulbs during an audit to adding insulation, sealing ductwork, or installing ENERGY STAR products.

To heighten awareness of options, MEA will collaborate with Maryland utilities and other organizations in public events to educate consumers on programs, products and technologies.

Contractors and trade representatives in HVAC, insulation, weatherization, and home improvement will be actively recruited to partner in the program.

Key Elements

- Contractor recruitment, participation, training and certification.
- Customer marketing and recruitment.
- Home energy assessment by participating contractors.
- Public education by MEA.
- Incentives to homeowners to adopt energy saving techniques.
- Consumer events, such as trade shows, home and garden shows, contests, giveaways and development of new public events.

Return on Investment:

- Homeowners can save an average of 20 percent on their annual energy bill after participating in the HPwES program - about $400 in annual savings.
- If 2,500 jobs, or homes, are completed per year, it saves 8,500,000 kWh, or $1.2 million annually in Maryland. Homes will also be healthier and safer.
- The program provides workforce development opportunities for those interested in the green building industry. It will develop trained and certified contractors capable of providing whole-house energy services in Maryland.

Best Practice: New York Home Performance with ENERGY STAR

The New York State Energy Research and Development Authority (NYSERDA) developed the first HPwES program, with 'one-stop shopping' for homeowners. NYSERDA works with a national lending program to offer a low interest loan application that can be processed on-site by the contractor. Over 100 contractors can offer the program and 250 technicians have been certified as analysts and installers. NYSERDA estimates it saved more than 1,100,000 kilowatt hours, 1,000,000 therms, and $13.1 million in lifetime energy savings in 2007.

C. Residential Renewable Energy Grants

Solar, wind and geothermal grants provide financial incentives for the installation of small renewable energy systems. Renewable energy systems like solar panels can be located directly where the electricity is used – reducing the need to get electricity from the grid. These systems provide price stability, alleviate congestion on the grid, and are a reliable source of pollution free energy.

Beneficiaries

All Marylanders that can install a small renewable energy system on their home.

The Way It Works

MEA will use SEIF funds to supplement existing grant programs, as their funding does not meet demand. MEA will administer grants in the current fiscal year. The funds will be used to serve the people currently on the waiting list, and any additional applications received by November 30, 2009.

- For solar and wind, the grant amount is $2,500 per kW for up to 4 kW with a maximum amount of $10,000.
- For geothermal the grant amount is $1,000 per ton, with a maximum grant amount of $3,000.

Contractors market the grant program heavily, and current demand for renewable grants is high. MEA's website is continually updated to reflect the most current grant information.

As the Federal Government has lifted the $2,000 cap from the solar Investment Tax Credit that began January 1, 2009, MEA anticipates increased applications for its solar grant program in the new calendar year. Accordingly, MEA is looking to update its regulations for the solar grant program in a way to maximize the kW generated for each dollar provided and to increase the number of Marylanders who can benefit from the program.

Best Practices: Delaware Green Energy Fund

Delaware provides up to a 50 percent rebate for the installation of solar, wind and geothermal energy systems through its Green Energy Fund. The fund is paid for by a surcharge on utility bills and is administered by the Delaware Energy Office.

Connecticut Clean Energy Fund

Through the Connecticut Clean Energy Fund, the state provides rebates for solar. The residential rebate is $5,000 per kilowatt for up to five kilowatts, and $4,300 per kilowatt for the next five kilowatts. The maximum grant amount is $46,500.

2 EmPOWERing Low-to-Moderate Income Households

A. Low–Income Energy Assistance

The Strategic Energy Investment Act of 2008 provides for energy assistance to Maryland's low-income residents. The statute requires that 17 percent of funds be transferred to the Department of Human Resources (DHR) to be used for electricity assistance programs. Assistance will be allocated to help ensure that no Marylander has to spend a cold winter or hot summer day without electricity. In addition to bill payment assistance, the SEIF will also be used to reduce low-income family electricity bills through targeted energy efficiency programs.

Beneficiaries

Low-income households in Maryland who have difficulty paying their electric bills.

The Way It Works

In FY2010, DHR in coordination with MEA will use the SEIF to provide funding in assistance with paying electric bills. Funds will supplement DHR's existing funds to help Marylanders during this time of economic uncertainty. Funds will be allocated through DHR's Electric Universal Service Program (EUSP).

Return on Investment:

- These credits, along with the low-income focus of energy efficiency programs, will ensure that no Marylander is left behind.
- The program helps those most in need, even if heat is paid as part of the rent.
- The program helps pay past due electric bills, assists with energy efficiency measures, and reduces future electric bills.
- When coupled with the increased funding for the Low Income Home Energy Assistance Program this year, this assistance will enable Maryland's low-income households to meet their immediate and future energy needs.

B. Low and Moderate Income Energy Efficiency Retrofits

This program will provide, at no or low cost, home improvements for families to reduce their energy bills. MEA will expand the current Assisted Home Performance (AHP) program run in cooperation with the Department of Housing and Community Development (DHCD) to serve low-to-moderate income families by providing approximately $5,000 worth of energy efficiency upgrades. MEA will also provide up to an average of $1,000 for minor building shell improvements in both the DHCD Weatherization Program and in the AHP program to increase the number of homes eligible to receive energy efficiency services.

Beneficiaries

Low and moderate-income customers plus property owners who rent to this market, with special emphasis on homeowners with above average energy bills.

The Way It Works

The Assisted Home Performance program motivates low-to-moderate income energy consumers to use a whole-house or whole-building approach to reducing energy consumption. Participating homeowners and property owners will receive incentives such as a direct rebate for a certain percentage of the home improvement project cost. Low-income participants will receive the most cost-effective energy efficiency improvements at no cost. In addition, MEA will coordinate incentives offered by utilities.

Customers would be provided with a partially-to-wholly subsidized assessment of how a combination of improvements, such as sealing air and duct leaks, adding insulation, improving the HVAC system and upgrading lighting and appliances, will result in a more comfortable and more efficient residence.

The condition of many low-income homes prevents energy efficiency or weatherization repairs. Up to an average of $1,000 per structure would be provided for specific building envelope repairs. Funds would be available to homes eligible in the DHCD Weatherization program and the AHP Program. MEA will coordinate with DHCD to enable DHCD affordable housing loan programs to take advantage of the AHP Program resources.

Participants will be directed to the program through the Maryland Home Performance website and other organizations serving low and moderate-income populations.

Return On Investment

- Low-income customers receive the most cost-effective improvements at no cost, and home will become healthier and safer.
- Homeowners can save an average of 20 percent on their annual energy bill – approximately $400 annually for a Maryland homeowner.
- If 2,500 jobs, or homes, are completed per year, it is equivalent to saving 8,500,000 kWh, or $1.2 million annually in Maryland.
- The program provides workforce development opportunities for individuals and companies interested in entering the green building industry. It will develop trained and certified HVAC, insulation, and home improvement contractors.

Best Practice: New York Assisted Home Performance with ENERGY STAR

Developed by the New York State Energy Research and Development Authority (NYSERDA), this program targets families earning below 80 percent of the state median income. Ten regional contractor teams receive training and certification in building diagnostics and installation of whole-house performance improvements. Eligible households receive a comprehensive energy assessment, low-interest loans, a 50 percent subsidy of project costs, and installation services. In 2007, program costs were $6.3 million while lifetime savings were $10.2 million from the savings of 1,100,000 kWh and 800,000 therms in that year.

C. Community Energy Efficiency Low-to-Moderate Income Grants

Local governments and nonprofit organizations serve their residents most closely, and best understand the needs specific to a geographic location or target audience. These grants will allow them to identify specific needs and receive financial assistance to implement energy efficiency plans and programs.

Beneficiaries

Local governments and non-profit organizations.

The Way It Works

Grants may fund a wide range of projects that could include:

1. Purchase and installation of an ENERGY STAR qualified heating and cooling system at a local affordable housing complex.
2. Purchase and installation of an energy efficient refrigeration system at a food bank.
3. Funding for a neighborhood energy efficiency campaign that would install low-cost energy efficiency measures such as CFL's, weather stripping, efficient showerheads and foam sealant.

Incentives are structured to support projects that improve energy efficiency, implement energy conservation plans and/or behavior, and maximize energy savings for the investment. MEA will administer competitive grants based on the availability of funds to local governments and non-profits. Marketing is through a variety of housing and community organizations.

Return On Investment

- The program will provide funding for a wide variety of local government and community organizations that already have close ties to low-to-moderate income communities in Maryland.
- It will provide a quicker program start up to implement energy efficiency opportunities in Maryland.

D. The Jane E. Lawton Conservation Loan Program

Financing is a major barrier to energy efficiency projects. Rising energy costs are eating into their budgets while funds for low-income programs mostly focus on needs such as food, clothing, and health care. Named for the late Delegate Jane Lawton, who was known for her dedication to the natural environment and energy efficiency, this program provides below market revolving loan packages to encourage investment in energy efficiency and renewable energy by businesses, local governments and non-profits.

Beneficiaries

Local housing authorities, affordable housing providers, non-profits and others serving the low-to-moderate income community.

The Way It Works

This program combined the Community Energy Loan Program (CELP) and the Energy Efficiency and Economic Development Loan Program into one entity. CELP has existed since 1989 and has provided 58 loans to local governments and non-profits for over $16 million, with annual savings of almost $4 million for the organizations. Applicants will use a standardized application process with MEA.

MEA is in the process of developing regulations to establish financial security requirements, depending on the type of loanee. This program can also leverage funds available from private markets.

Return On Investment

- The program offers readily available access to below market rate loans for energy related projects, and funds saved from energy improvements to be used to further agencies' missions.
- Loans will provide faster returns on investment, with lower energy costs after efficiency and renewable measures are installed, and lower emission of greenhouse gases and other pollutants.
- The program encourages development of innovative energy technologies, provides for local job creation, and improves energy security.
- Improvements can make housing truly affordable.

Best Practice: Maryland Community Energy Loan Program (CELP)

CELP loans have assisted schools, hospitals, local governments, museums, YMCAs, and a variety of other non-profits. These organizations have saved over $4 million annually and $20 million cumulatively, funds that they have used to implement their core mission, rather than pay for energy. Program benefits included up to eight years to repay, deferred payments, and below market rates, nominal application and closing fees.

E. Energy Efficiency Grants for Multi-Family Buildings

To encourage energy efficiency in multi-family buildings, MEA would subsidize energy audits and the installation of energy saving measures in multi-family buildings, focused especially on multi-family buildings with high percentages of low income families.

Beneficiaries

Residential customers in multi-family buildings, especially those with a high percentage of low-income Maryland residents.

The Way It Works

Energy efficiency programs encounter unique challenges in multi-family buildings. Multi-family buildings face a "split incentive" problem where the landlord is responsible for the maintenance of the residence but the tenant is responsible for energy bill payment. In this situation, there is no incentive for the landlord to invest in energy efficiency and the tenant generally does not have authority to make improvements to reduce energy usage.

MEA will work with partners to share the cost of energy audits and the installation of energy saving measures to ensure that no Maryland is left behind. Projects will be selected based upon energy and demand savings, while ensuring geographic diversity.

The multi-family program will be run by a direct install contractor selected through the State procurement process.

Key Elements

- Improve energy efficiency and comfort in low-income housing.
- Remove barriers to entry for those in multi-unit dwellings.
- Home energy assessments by participating contractors.
- Public education by MEA.

Return On Investment

- The grants provided through this program pay for projects that will lower the energy bills and improve the comfort of low-income Marylanders who live in multi-family housing.
- Applicable projects could include additional insulation and air sealing, an upgrade to an ENERGY STAR refrigerator and/or the installation of a more energy efficient hot water heater.

Best Practices: National Grid EnergyWise Program

National Grid developed a multifamily retrofit program in the northeast to address the problem in multifamily buildings. This program assists customers and building owners with an initial energy audit with follow-up installation of low-cost energy saving measures (CFL's, air sealing, caulking) at no charge. Energy service companies then arrive to install insulation, heating and cooling equipment as recommended by the energy audit. In 2006, 18,000 households were served by this program and cost approximately $10 million. Since 1996, the program has delivered more than 149,000 cumulative annual MWh savings and 2,222,000 MWh in lifetime savings for more than 185,000 customers.

3 EmPOWERing Businesses, Farmers and Workers

A. Specialized Industrial & Commercial Energy Assessments

This program will offer energy assessments to industrial facilities. MEA will work with the local electric utilities to identify industrial facilities that could use the program.

Beneficiaries

Industrial facilities in areas where energy assessments are not being offered in the local utility's EmPOWER Maryland plan.

The Way It Works

MEA will cost share the price of the energy assessment with the industrial facility, up to a defined maximum contribution. To encourage industrial facilities to implement energy savings measures identified, MEA will refund the facility's cost share of the energy assessment costs if the facility implements measures that result in at least 50 percent of potential savings.

MEA will leverage the local utility account managers to communicate the program. A third party vendor will be responsible for selecting the energy assessment contractors, ensuring assessment quality, and reporting results to the customer and MEA. The implementation vendor will also be responsible for final verification of the energy savings achieved through the assessment.

Return on Investment:

- This program will give industrial facilities access to energy efficiency expertise that may not exist within their organizations.

Best Practice:
New York State Energy Research and Development Authority FlexTech Program

This program is designed to improve the productivity of industrial facilities with annual energy bills greater than $75,000. Energy efficiency analyses are one of the services that the program provides through the use of contracted engineering firms. For instance, the program conducted an analysis of the ITT Industries Heat Transfer plant in Buffalo, NY. It identified $262,000 in annual potential savings. The energy measures recommended had a payback period of 2.3 years.

B. Farm Energy Technical Assistance & Incentives

Maryland's 12,000 farms spent about $26 million on electricity in 2008. Maryland farms spent millions more on petroleum products, gasoline, diesel fuel, natural gas, LP gas, kerosene, fuel oil, and other fuels. This project will provide energy assessments to Maryland farms, and offer cash rebates for the installation of qualifying energy efficiency measures. It's an extension of the successful Maryland Farm Energy Site Assessment Program, and much of the design and strategy is already in place.

Beneficiaries

Rural Marylanders and all Maryland farms.

The Way It Works

The program will work closely with Maryland equipment manufacturers, equipment dealers, the extended agricultural community and farmers. It will also leverage other available sources of energy efficiency funds for farms and work in coordination with any applicable utility energy efficiency programs without duplication of efforts. Tier 1 will offer technical assistance and/or rebates on energy efficient equipment. Tier 2 will offer farm energy assessments to qualifying producers who have substantial potential energy savings, and/or rebates on energy efficient equipment.

The program will address energy efficiency in all fuels. Since 2006, energy assessments have been provided for 75 Maryland farms. Nearly 2 million kWh savings and over 63,000 gallons of propane savings have been identified.

Services offered include technical assistance, energy assessments, and rebates. All Maryland farms will be eligible for technical assistance and rebates provided the project meets a minimum energy savings threshold. Energy assessments will be reserved for farms that have higher energy use and/or higher energy savings potential, and are committed to installing efficiency measures.

Farmers will provide a percentage of the assessment cost, with the fee reimbursed if they install any of the assessment's recommendations. This fee structure provides a "kicker" for farmers, leading to a high implementation rate resulting from the assessments.

Key Elements:

- A calculated per-kWh/ per-BTU incentive for farms that implement recommended energy efficiency measures.
- Program implementation provided by a third-party contractor.
- Agricultural partners will distribute program information, including the Maryland Department of Agriculture, USDA Natural Resources Conservation Service, Resource Conservation & Development Councils, Conservation Districts, USDA Rural Development, MARBIDCO, and USDA Sustainable Agriculture Research & Education (SARE).
- Program directly marketed through mailings, phone calls, and personal farm visits.
- Equipment manufacturers, equipment dealers, and the agricultural community will also promote the program.

Best Practice: Maryland Farm Energy Site Assessment Program

In 2006, Phase I provided 25 energy assessments to producers on the Eastern Shore. Primarily poultry operations, the scope was limited to farmers who had requested energy assessments through the Federal Conservation Security Program (CSP). The program identified energy savings and production benefits of 471,700 kWh and 46,000 gallons of propane. Savings represent $115,000 in annual energy costs and in addition $300,000 in annual productivity benefits (e.g. crop yields or increased animal production).

In 2007, Phase II began with a goal of 50 assessments in western Maryland. As of October 2008, the program delivered all 50 assessments to producers, and has identified 1.5 million kWh and 17,000 gallons of propane potential savings.

C. Combined Heat and Power

Currently, Maryland only has eighteen combined heat and power installations that are capable of generating 829 MW of power. The number of combined heat and power projects installed in the State has been limited in the past due to factors such as the relatively high cost of natural gas in comparison to the low cost of electricity and the large, upfront cost of the feasibility assessment required for combined heat and power projects.

This program will offer incentives to encourage the development of combined heat and power (CHP) projects. In combined heat and power, fuel is combusted to sequentially produce electricity and heat. By generating electricity and heat at the same time, fuel is used more efficiently.

Beneficiaries

Commercial, industrial and institutional consumers whose electric and thermal energy use characteristics are suitable for in combined heat and power technology.

The Way It Works

Feasibility Assessments

One barrier that combined heat and power projects continue to face is the cost of the feasibility assessment. In order to remove this barrier, MEA plans on co-funding the cost of feasibility assessments.

- Stage 1 – Qualification – Prior to being eligible for receiving CHP feasibility study co-funding, interested program participants must be able to demonstrate that CHP technology is feasible at their facility. The participant will determine if CHP technology is worth considering at their site using a simple screening tool, such as the tools available on the EPA website or through the Mid-Atlantic Regional Combined Heat and Power Application Center website. Because these tools are available for free on the internet, there is no cost to the participant for this initial screening. This type of prequalification also benefits MEA by limiting the expenditure of funds on feasibility analyses for projects with limited chance of implementation.
- Stage 2 – Level 1 Feasibility Analysis – The goal of this analysis is to identify project goals, potential barriers, and quantify technical and economic opportunities. A rough estimate of the potential design, costs, and benefits is developed at this stage. This analysis requires a trained engineer to complete.
    - EPA estimates that this analysis can cost up to $10,000 and provides a spreadsheet-based analysis tool to assist with collecting the necessary data.
    - For facilities that have passed the Qualification stage, MEA will fund 75% of the cost of a Level 1 Feasibility up to a maximum of $7,500.
- Stage 3 – Level 2 Feasibility Analysis – The analysis is aimed at optimizing the design of the CHP system, including capacity, thermal application and operational considerations. It includes engineering design, detailed and reliable economic analysis, and financial packaging. At the completion of this analysis, the project is clearly defined and ready to go out to bid.
    - Depending on the project, the costs for this analysis could exceed $100,000.
    - MEA will fund 50% of the cost of a Level 2 Feasibility Analysis, up to a maximum of $50,000.
    - MEA's co-funding for the Level 2 Feasibility Analysis is conditional on the execution of the completed project. Should the program participant decide to not move forward with the CHP project, the program participant will be responsible for the entire cost of the Level 2 Feasibility Analysis.

This program will be operated on a first-come, first-serve basis. MEA plans on making up to $200,000 for this program available during fiscal year 2010.

Key Elements

- MEA will partner with the Mid-Atlantic Combined Heat and Power Regional Application Center at the University of Maryland to market CHP technology.
- MEA will co-sponsor workshops as part of this program to educate the State on the benefits of CHP.

Return on Investment

- Removes market barriers that prevent consumers from pursuing combined heat and power projects due to the cost of the feasibility assessments.
- Increases understanding of combined heat and power technology across Maryland.
- Encourages a more efficient use of fuel.

Sample Program: New York State Energy Research and Development Authority

Starting in the year 2000, NYSERDA has worked to remove market barriers that prevent combined heat and power projects from being developed within New York State. NYSERDA has partnered with the Northeast Regional Combined Heat and Power Applications Center to have interested facilities pre-screened to see if they are potential CHP candidates. Once potential candidates are identified, NYSERDA has provided funding support for investment-grade analyses of combined heat and power projects through the NYSERDA Technical Assistance Program. In 2002, NYSERDA's program provided up to $50,000 of the cost of the CHP analysis and reimbursed the entire cost of the study, up to $100,000, if the study recommendations were implemented. In addition, NYSERDA has sponsored CHP conferences that leverage case studies, site tours, policy issues, and project challenges.

D. Financial Incentives for Commercial/Industrial/Institutional Custom Electricity Reduction Projects

This program will offer financial incentives to encourage commercial, industrial, and institutional consumers to engage in projects that reduce electricity use in their facilities.

Beneficiaries

Large commercial, industrial and institutional consumers.

The Way It Works

MEA will be offering financial incentives to commercial, industrial, and institutional consumers for large electricity reduction projects. Incentives will be awarded based on the measure lifetime. The incentives available through this program will be capped at a maximum incentive of 70% of the incremental cost of the project associated with improving the energy efficiency of the measure being installed. To be eligible for this program, the project must be able to save a minimum of 100,000 kWh over the life of the energy efficiency measure.

MEA plans on offering a sliding scale of incentive payments based on the life of the energy efficiency measure being installed. Projects must have a minimum measure life of five years to be eligible for this program.

Measure Life (years)	Incentive Payment ($/annual kWh)
5	0.05
6	0.06
7	0.07
8	0.08
9	0.09
10	0.1
11	0.11
12	0.12
13	0.13
14	0.14
15 or more	0.15

Measure lives will be determined using published reference materials.

During 2010, MEA is planning on offering $200,000 in incentives through this program. No facility will be awarded more than 25% of the annual funding allocation.

Key Elements

- Incentive program will be advertised on the Maryland Energy Administration website.
- Information on this program will also be distributed to utility account managers, energy service companies, and other trade allies likely to come in contact with commercial, industrial, or institutional consumers.

Return on Investment

- Makes energy efficiency project economics more attractive in comparison to other potential investment opportunities.
- Reduces the production of greenhouse gases.

Best Practice: Entergy Texas Commercial Incentive Program

The Entergy Texas Commercial Incentive program offers an incentive of $0.059/ annual kWh saved for electricity reduction projects. This program was designed to provide flexibility in the type of projects that could receive financial incentives, based on the unique needs of the business, for quantifiable reductions in electricity usage.

E. Energy Improvements for Commercial Customers – Small Commercial Direct Install

To get closer to the EmPOWER Maryland energy savings targets, MEA will start to promote early retirement of inefficient equipment. Currently, the energy reduction programs filed by the utilities do not reach the aggressive targets outlined in the EmPOWER Maryland legislation. Only Baltimore Gas and Electric (BGE) is proposing a small commercial direct install program. A MEA-managed small commercial direct install program, in addition to the BGE program, will complement the end-of-life replacement strategies proposed by the utilities by providing deeper energy savings for the State. The direct install program is designed to acquire additional energy savings by encouraging small commercial customers to engage in early replacement of equipment based on potential energy savings.

BGE has proposed a similar program for their customers with peak demand of less than 60 kW. MEA does not intend to deliver this program in areas served by BGE but will work to ensure that the MEA program is similar to the BGE program, in order to ensure statewide consistency, wherever possible.

Beneficiaries

Small commercial customers.

The Way It Works

This program will be implemented by a contractor selected through a competitive bidding process. MEA will oversee the contractor's activities and will establish annual program goals and performance metrics for the contractor. This model has been very successful in several states and utility service territories. The contractor(s) will provide MEA and all eligible customers with "turn-key" services that will include:

- Marketing and program enrollment.
- Provision of on-site customer audits.
- Identification and recommendations for efficiency improvements by a trained, experience contractor.
- Direct installation of all customer-accepted cost-effective recommended. efficiency improvements in the customer's facility.

The key financial incentive comes in the form of an 80% incentive payment on the full installed cost of the measures. In practice, this payment will be made directly to the implementation contractor. The customer will pay their 20% of the cost directly to the contractor as well. This process prevents the customer having to support the full cost of the measure until receiving a rebate from MEA. The customer pays upon installation of the measures and the implementation contractor receives the remainder of the cost from MEA. Contractor payment can be done monthly which limits the processing burden on MEA. Instead of processing hundreds of individual customer applications, MEA processes a monthly submission from one contractor.

Key Elements

- Turnkey service will combine project analysis, financial incentives, and installation into a unified package to reduce the time and effort required on the part of the customer. This service is designed to make efficiency adoption as simple as signing a commitment letter, removing many of the transaction costs these customers face.
- Identification of opportunities and selection of efficiency measures accomplished by a trained, experienced contractor.
- Installed measures will be mature, well-tested technologies from reliable vendors
- Participation will only require two site visits, one to identify opportunities and one to install selected measures.
- Information and education by the implementation contractor will inform businesses of the economic benefits of efficiency investments.

F. Clean Energy Workforce Training

MEA will provide training to service providers in the clean energy industry. The primary goal is to educate workforce members about the importance of energy efficiency and renewable energy and how to properly sell, install, operate, and value these products and services. The program will also encourage people just entering the workforce or seeking a career change to choose the clean energy industry.

Beneficiaries

Companies that impact energy efficiency and clean energy in homes, businesses, and transportation, such as builders, building operators, contractors, energy auditors, schoolteachers and administrators.

The Way It Works

Training will be provided on energy efficiency and renewable energy and how to properly sell, install, operate, and value clean energy products and services. The program will provide free or subsidized training seminars to members of different industries. Program partners would be the beneficiaries.

MEA would hire an outside contractor to conduct evaluation, measurement and verification for the various trainings.

This program may also target low-income communities to participate in the trainings and to offer them at no charge. The trainings could serve as a type of workforce development making attendees more competitive in the market, including people for whom English is a second language.

Return On Investment

- Participants will be more able to compete in the workforce for jobs in the clean energy industry.
- It expands the workforce capable of doing work to reach the EmPOWER Maryland goals. The American Council for an Energy Efficiency Economy estimates that meeting the EmPOWER Maryland goal will create 8,000 jobs by 2015.
- By educating more people about energy efficiency and renewable energy, greater economic value is assigned to buildings that are more energy-efficient and take advantage of clean energy.
- It fulfills the need for more training on energy efficiency and green building skills, which are not widely available.
- It provides potential funding to small businesses to implement training programs through the competitive procurement process.

G. Small Business Renewable Energy Grants

The grant program provides financial incentives for the installation of small renewable energy systems. Renewable energy systems like solar panels can be located directly on the building or site where electricity is used – reducing the need to get electricity from the grid. These systems provide price stability, alleviate congestion on the grid, and are a reliable source of pollution-free energy.

Beneficiaries

All Maryland businesses that have the ability to install small renewable energy systems.

The Way It Works

MEA will use the funds to supplement existing grant programs:

- For solar and wind, the grant amount is $2,500 per kW for up to 4 kW with a maximum amount of $10,000. Historically, the average grant amount is approximately $6,500.
- For geothermal, the grant is $1,000 per ton, with the maximum grant amount of $3,000.

MEA will administer grants in the current fiscal year. Contractors that install these systems market the grant program heavily and demand for grants is high. Funds will be used to serve those currently on the waiting list and new applicants. MEA's website reflects the most current grant information.

Best Practices: Delaware Green Energy Fund

Delaware provides up to a 50 percent rebate for the installation for solar, wind and geothermal energy through its Green Energy Fund. The Green Energy Fund is paid for by a surcharge on utility bills and is administered by the Delaware Energy Office.

Connecticut Clean Energy Fund

Through the Connecticut Clean Energy Fund, the state provides rebates for solar. The rebate for non-profit and government organizations is $5,000 per kilowatt for up to 10 kilowatts ($50,000).

4 EmPOWERing Communities

A. Jane E. Lawton Conservation Loans

Financing is a major barrier to energy efficiency and renewable energy projects. Local governments, non-profits and businesses are extremely busy. Rising energy costs strain their budgets. Low-interest loans for these projects can allow these projects to move forward. Named for the late Delegate Jane Lawton, who was known for her dedication to the environment and energy efficiency, this program provides below market revolving loans to encourage investment in energy efficiency and renewable energy by local governments, non-profit organizations and businesses.

Beneficiaries

Local governments, non-profits and businesses.

The Way It Works

The program combined the Community Energy Loan Program (CELP) and the Energy Efficiency and Economic Development Loan Program into one entity. CELP has existed since 1989 and has provided 58 loans to local governments and non-profits, with annual savings of almost $4 million for the organizations.

The current program will continue to function quickly and efficiently. Local governments and non-profits know about it through outreach and energy services providers. Monitoring and verification can be done through the energy services providers or through regular reporting of energy use by the loan recipients.

MEA is in the process of developing regulations to establish financial security requirements, depending on the type of loanee. This program can also leverage funds available from private markets.

Return on Investment:

- It's a readily available source of access to below market rate loans for energy related projects.
- Financial assistance through loans will provide faster returns.
- It will result in lower energy costs and lower emission of greenhouse gases and other pollutants due to the installation of efficiency and renewable measures.
- Innovative energy technologies are encouraged, as is local job creation and state and national energy security.

Best Practice: Maryland Community Energy Loan Program (CELP)

The CELP program was originally launched in 1989 and has provided over $16 million in loans to 58 organizations. These have included schools, hospitals, local governments, museums, YMCAs, and a variety of other non-profits. These organizations have saved over $4 million annually and $20 million cumulatively, funds that they have used to implement their core mission, rather than on energy costs. CELP was rolled into the Jane E. Lawton Conservation Loan program on July 1, 2008. It offers deferred repayment, no penalty for prepayment, below market rates, and nominal application and closing fees.

B. Community Energy Efficiency Grants

While many projects are suitable for loans, due to energy savings as a source for repayment, some projects, such as non-profits doing energy efficiency projects in low-income neighborhoods, are not. These grants would allow local governments and nonprofits to identify specific needs and receive financial assistance to implement the plans and programs

Beneficiaries

Local governments and non-profits.

The Way It Works

Local governments serve their residents most closely, and best understand their needs. MEA will administer competitive grants based on the availability of funds to local governments and non-profits. Projects will be selected based upon energy and demand savings, while ensuring geographic diversity.

Activities that conserve energy or increase energy efficiency are eligible. Incentives vary depending on the proposed plan of action, and are structured to support projects that improve energy efficiency and implement energy conservation plans.

Marketing of the program will be through the Maryland Association of Counties, the Maryland Municipal League, and the Maryland Association of Non-Profit Organizations.

Return On Investment

- It's a valuable additional tool to promote affordable, reliable, and clean energy in Maryland.
- The ability to offer grants as well as loans will ensure that a wide variety of projects are able to be implemented.

C. Community Renewable Energy Grants

These grants would allow local governments and nonprofits to identify specific renewable energy needs and receive technical and financial assistance to implement plans and programs. Projects that have longer-term paybacks due to significant costs of renewable energy systems will benefit. MEA will administer competitive grants based on availability of funds. Projects will be selected based upon the amount of energy generated from renewable sources, while ensuring geographic diversity.

Beneficiaries

Local governments and non-profits.

The Way It Works

Local governments serve their residents most closely, and best understand the needs specific to a geographic location, critical to renewable energy projects. Incentives are structured to support projects that provide clean energy from renewable sources, enhance the clean energy industry in Maryland, and reduce dependence on foreign sources of fuel.

Examples of potential projects include:

- Installing a solar electric system on a Howard County landfill to power a nearby school.
- Developing a clean energy demonstration park in Annapolis.
- Using solar and wind systems to move a community off the grid.

Marketing of the program will occur through the Maryland Association of Counties, the Maryland Municipal League, and the Maryland Association of Non-Profit Organizations.

Key Elements:

- This program will provide a valuable additional tool to promote affordable, reliable, and clean energy in Maryland.
- Projects that have longer-term paybacks due to significant costs of renewable energy systems will benefit from these grants.
- The ability to offer grants will ensure that a wide variety of projects can be implemented.

D. Grants for Alternative Fuels & Renewable Energy

The transportation sector is responsible for 32 percent of Maryland's greenhouse gas emissions. Reducing emissions from this sector is critical to reducing these emissions. Existing and new technologies will allow us to meet our transportation needs with reduced reliance on petroleum imports and with fewer carbon dioxide emissions. This program will provide competitively awarded grants to support advanced transportation technologies and alternative fuels.

Beneficiaries

Local governments, fuel providers, service station owners, project developers and other entities.

The Way It Works

MEA will administer competitive grants based on availability of funds to local governments, businesses and non-profits. Projects will be selected based on greenhouse gas emission reduction, petroleum and fossil fuel displacement potential and the project's ability to support state goals and policies.

Today, alternative fuels such as biodiesel, ethanol, electricity, compressed natural gas and hydrogen are available on a limited basis. Grants will improve the availability of these, and also support plug-in hybrid vehicles and electric vehicles.

Grants will also support renewable energy project development. Small grants can often make projects economically viable. On a selective basis, MEA will make grants to help finance renewable energy projects.

Priority will be given to projects that:

- Increase alternative fuel infrastructure.
- Maximize reduction of petroleum through the use of alternative fuels or advanced technologies.
- Support alternative fuel projects that reduce greenhouse gas emissions.
- Increase generation of electricity from Tier 1 renewable resources located in Maryland.

Marketing of the program will occur through the Maryland Association of Counties, the Maryland Municipal League, the Maryland Association of Non-Profit Organizations and the Clean Cities program.

Return On Investment

- The program will reduce petroleum/fossil fuel consumption and greenhouse gas emissions.
- It will increase energy security and economic activity including job creation.

Best Practices: New York State Energy Research and Development Authority (NYSERDA) Transportation Programs

NYSERDA provides financial assistance and technical information to encourage fleets to purchase alternative-fuel vehicles (AFVs) and install fueling facilities or charging stations. Incentives are available to encourage the use of bio-fuels such as ethanol and biodiesel. NYSERDA also has programs to encourage the use of emission reduction

NYSERDA Bio-Fuel Station Initiative is estimated to help open 300 new retail E85 Ethanol and/or Blended Biodiesel fueling stations. It provides a reimbursement of 50 percent of the costs, up to $50,000 per site, for new installations of biofuels dispensing equipment, storage tanks, and associated piping equipment. NYSERDA also runs a program that supports the development, demonstration, and commercialization of advanced transportation products, systems and services. Technologies include advanced vehicles and components, energy management and storage systems, alternative fuels and fueling systems, rail and transit, intelligent transportation systems, infrastructure, heavy-duty and commercial vehicles and electrified transportation.

The Energy Trust of Oregon

This set aside funds to pay utilities for the above-market costs of two biomass projects representing 6 MW and a 75 MW wind project. Rising fossil fuel prices eventually made the renewable energy projects economically attractive, and the funds for the above-market payments were not needed. (The California RPS works in a similar manner, where 51.5 percent of the California's public benefits fund [about $69.5 million annually] for renewable energy is reserved for the above-market costs of renewable energy projects that are selected in utility renewable energy competitive bidding solicitations.)

E. Grants for Supporting Clean Energy Generation within Maryland

Numerous state agencies, local governments, non-profits, and for-profit organizations are pursuing clean energy generation projects, but are struggling to pay the upfront costs. MEA will establish a program to offer financial incentives to assist in evaluating the feasibility and overcoming barriers to entry of potential new generation of clean energy within Maryland.

Beneficiaries

Maryland state agencies, local governments, non profits, and for-profit organizations.

The Way It Works

MEA will use SEIF funds to provide assistance where there is potential for the generation of clean energy but there is a barrier to entry, such as a technical, financial, strategic, or development validation requirement needed before the resource can be harnessed into clean energy. If there is a demonstrated potential for the generation of clean energy within the state and verification is required, for example, to provide mapping of resources or the deployment of a technology along with possible costs and potential revenues, these grants can be used to provide program credibility for the purpose of going to the next stage of commercialization. Projects will be selected based on the potential energy generated from renewable resources. MEA will administer competitive grants based on availability of the funds.

Key Elements:

The grants will be considered for programs that:

- Demonstrate a quantifiable level of clean energy generation.
- Directly support the generation of clean energy within Maryland's state boundaries.
- Bring state-wide, county or city benefit.
- Close to commercialization.

5 EmPOWERing State Government

A. State Agency Loan Program (SALP) – New Loans

SALP is a revolving loan program administered by the MEA. It provides loans for energy efficiency improvements in state-owned facilities. SALP loan repayments are made from the borrowing agency's fuel and utility budget using the energy costs avoided through the implementation of the project.

Beneficiaries

State agencies implementing projects to reduce energy consumption.

The Way It Works

MEA will continue to administer the SALP program moving forward. Additional funding for SALP through the Strategic Energy Investment Fund will enable Maryland to initiate additional projects to further reduce state energy consumption during fiscal year 2010.

State agencies pay zero percent interest on the loan and a one percent administration fee.

SALP will be advertised to each State Agency through the network of State Agency energy coordinators. SALP information will also continue to be advertised on the MEA website.

Return on Investment:

- This is a readily available source of funding to help state agencies meet the energy consumption reductions outlined in the State Building Energy Efficiency and Conservation Act.
- The program reduces the energy costs required to operate state buildings.
- It results in lower emission of greenhouse gases and other pollutants by state facilities.

Best Practice: The Maryland State Agency Loan Program (SALP)

Since the SALP program was launched in 1991, the revolving loan program has provided over $16.5 million in loans to State Agencies for 61 energy related projects. Thus far, the SALP-funded energy projects have saved the state over $20.1 million in energy costs.

B. State Agency Energy Efficiency Infrastructure

This program will use Strategic Energy Investment Fund money to make the fiscal year 2010 repayments back to the State's Master Lease for state agencies participating in ongoing energy performance contracting, thereby freeing up general funds to be used for cost-containment.

Beneficiaries

State Agencies currently participating in energy performance contracting.

The Way It Works

Energy Performance Contracting (EPC) is a self-funding financing mechanism that allows energy and water conservation projects to be implemented in state facilities without requiring additional capital investment. State agencies finance the costs of an EPC through the state's Master Lease. The cost of the EPC is then repaid from agency energy savings resulting from the project.

By making the fiscal year 2010 payments for state agencies participating in EPCs, operational funds will be made available for cost containment.

Once approved, MEA will transfer the funds from the Strategic Energy Investment Fund to the state's Master Lease.

Return On Investment

- State Agencies will spend less of their 2010 budgets on utility and energy costs allowing general fund dollars to be used for cost containment.

C. Strategic Planning for Maryland's Energy Future

This program is designed to provide analysis and direction across a wide range of state energy issues. Maryland has not updated its state energy plan since 1993. There have been drastic changes in the energy landscape, such as utility deregulation and oil and electricity prices experiencing extreme volatility. Rather than focusing on a single program, strategic planning will provide the opportunity to develop and implement broad policy direction to secure Maryland's energy future.

Beneficiaries

State agencies and their program managers.

The Way It Works

The primary objective is to evaluate Maryland's comprehensive energy picture and to establish policy direction that results in reliable, affordable and clean energy for all Maryland consumers. It will include analysis of supply and demand for electricity, natural gas, home heating oils and transportation fuels.

By identifying key energy issues and providing optimal approaches, it's able to ensure policies and programs that ultimately provide benefit to residential, commercial, industrial energy consumers in Maryland.

MEA staff will provide implementation and operation with the assistance of state agency partners and knowledgeable consulting agencies as needed. The process will review various approaches and make policy recommendations that support a reliable, affordable and clean energy outcome.

Key Elements:

- Development of a comprehensive plan, including information on and analysis of supply and demand for electricity and natural gas, home heating oil, and transportation fuels.
- Evaluation of all economic sectors in the analysis, including residential, small and large commercial, governmental and institutional, industrial, and transportation.
- Identification of potential threats to Maryland's energy security and best practices to minimize Maryland's exposure to both natural and man-made disruptions to our energy supply.
- Analysis of the impact energy policies have on low-income constituents and recommend actions and programs to assist this population.
- Analysis of budgetary needs for constructing and implementing such a plan.

Return On Investment

- This program will help provide Maryland energy consumers with reliable energy supplies at an affordable cost with minimal environmental impact.
- It offers cost effective use of limited resources to implement effective energy management programs including new generation, efficiency, renewable demand side resources and climate mitigation efforts.
- Strategic planning ensures that the most effective policies to provide energy security, control energy costs and to mitigate environmental impact are implemented in a timely and effective manner.
- It will ensure coordination of policies that lead to effective use of electric generation, natural gas, home heating oil and transportation fuels within the state.

Best Practice: New Jersey, New York and Texas Energy Plans

The states of New Jersey, New York and Texas all offer examples of high quality comprehensive energy plans and, like other states, routinely develop and publish strategic plans to provide state policy guidance.

D. Maryland Department of the Environment's Climate Change Program

The Climate Change program supports the implementation of the Regional Greenhouse Gas Initiative (RGGI) and other ongoing work by the Department of the Environment to develop and implement climate change programs through reduction and sequestration of greenhouse gas emissions

Beneficiaries

The Maryland Department of the Environment.

The Way It Works

Maryland, along with other states created RGGI Inc. to implement and coordinate RGGI activities. Each RGGI participating state is responsible for a percentage of RGGI Inc.'s operating costs based on the amount of emissions from that state.

The Department will continue to develop programs related to the mitigation of greenhouse gases. These activities include ongoing research, development and implementation of greenhouse gas emission reduction programs, and administration of new and existing greenhouse gas regulatory programs.

Return On Investment

- Reduction of greenhouse gas emissions from reduced demand for electricity and increased availability of electricity generated from renewable energy.
- Preparedness regarding future adaptation needs due to the rise of sea levels.
- Lower energy costs with installation of efficiency and renewable measures.
- Lower emission of other pollutants, including ozone.
- Encouraged development of innovative energy and industrial technologies, leading to decreased emissions from industrial manufacturing and reduced waste generation.

6 EmPOWERing Energy Awareness

A. Public Outreach Campaign

Public outreach is essential to the success of proposed energy efficiency and renewable energy programs. This campaign will educate all Marylanders about opportunities to reduce their electricity bills through energy efficiency, and the opportunity to contribute clean power through a household renewable energy system.

Beneficiaries

All Marylanders.

The Way It Works

The proposed outreach campaign relies on public relations and media messaging to create awareness various programs. Messaging will be supplemented with paid advertising, printed materials, MEA's website, and community outreach activities. When combined, these will help consumers make educated choices on how to cut their energy consumption.

As the campaign develops, the media mix may evolve. A flexible campaign offers the most appropriate method of managing awareness, and allows the campaign to become more effective as consumer acceptance grows and new programs are developed.

Educated consumers make informed choices about the programs that will meet their energy needs, reduce their energy costs and help the environment. MEA will seek to coordinate its awareness campaigns with other entities in Maryland (e.g. electric utilities) to maximize the effectiveness of the campaign.

Return On Investment

- The campaign will help consumers reduce the monthly electricity bills through little to no cost measures.
- It will assist Marylanders in understanding the benefits of these programs to the environment.
- Clear, easily understood information will help Marylanders make informed choices.

Best Practices : Energy Efficiency Tools for Libraries

This outreach program will make energy efficiency tools available for loan through Maryland public library systems. Energy efficiency tools that may be available for lending include Kill-A-Watt electricity load meters and infrared thermometers.

Sample Awareness Campaign for Schools

MEA is partnering with the State Department of Education to launch a pilot program to educate school facility managers, teachers, administrators, and students in energy conservation and efficiency strategies. As part of Maryland Association for Environmental and Outdoor Education's Green Schools program, Maryland schools have the opportunity to participate in energy conservation activities.

The purpose of the Strategic Energy Investment Fund is "to decrease energy demand and increase energy supply to promote affordable, reliable and clean energy to fuel Maryland's future prosperity."

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For additional information, please visit:

www.Energy.Maryland.Gov